

REMARKS

In the Office Action mailed September 10, 2004, the Examiner rejected claims 1-4 under 35 U.S.C. § 103(a) as being unpatentable over Morishita (5,127,380) in view of Agarrat (5,465,694); and rejected claims 5 and 6 under 35 U.S.C. § 102(b) as being anticipated by Nakatani et al. (4,957,079) (hereinafter “Nakatani”). These rejections are respectfully traversed for the following reasons.

With respect to the rejection of claims 1 and 2 over the combination of Morishita and Agarrat, this rejection is traversed for at least the following reasons. Assuming arguendo, no other deficiencies in Morishita with respect to claims 1 and 2, as the Examiner points out, Morishita fails to disclose a thrust bearing cap disposed on the crankshaft as recited in the claims. However, contrary to the Examiner’s assertion, Agarrat fails to cure this deficiency of Morishista. At a minimum Agarrat discloses a thrust bearing crankshaft bearing 12 (col. 3, lines 44-47) displaced below a cam bearing 2 but does not disclose such placement being within an angle of ± 5 of a vertical angle from the thrust bearing on the crankshaft. Furthermore, the cam bearing 2 of Agarrat is not disclosed as a thrust bearing as recited in the claims. Nothing in Agarrat teaches or suggests that cam 2 could be a thrust bearing camp cap. Furthermore, nothing in either Agarrat or Morishita, taken alone or in combination, proposes the claimed feature of maintaining an angle of about ± 5 between the two thrust bearings as recited in the claims. In fact, neither reference discloses such a feature at all.

Furthermore, nothing in either Agarrat or Morishita, taken alone or in combination, proposes the claimed features in claim 2 or claim 3. The Examiner asserts that the location of the thrust bearing cap of the camshaft would be an obvious design choice. First, the Examiner asserts the position with a conclusory statement without any such evidence that such would in fact be a design choice. The Examiner points to nothing regarding “the engine type and size” that would render any positioning to have no structural effect and be only a “design choice” In any event, the claims recite a specific feature of alignment of both a thrust cam cap for the camshaft *and* for the crank shaft to maintain smooth operating during temperature spikes. Second, even if the Examiner’s assertion were in fact correct, nothing suggests the recitations of claim with respect to the choice of the location of the thrust bearing cam cap on the camshaft with an angle of ± 5 .

With respect to claim 4, Morishita discloses that the axial thrust bearing surface formed at the thrust cam cap 154 is to be inserted in a groove of a thrust shoulder 156. This thrust bearing surface to limit axial movement is not equivalent to the bearing part of the present invention, which is protruded with respect to a width of the bearing surface to

support longitudinal movement of the camshaft. Nothing in Morishita discloses a bearing part that protrudes with respect to a bearing surface to support longitudinal movement of the camshaft. At a minimum, the Morishita discloses nothing protruding beyond the bearing surface created by cap 154 on each portion of the two bearings, one of each side of the groove for the shoulder 156.

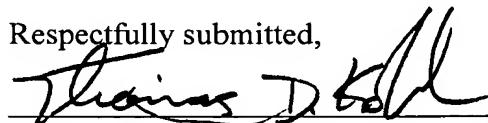
With respect to the claims 1-4, the only motivation to combine the references in the way that the Examiner asserts comes from the Applicant's disclosure itself. Nothing in either Morishita or Agarrat teaches or suggests combining it with the other. The Examiner's motivation "in order to improve the engine performance" is simply not supported in either reference. The only motivation to combine the references as cited by the Examiner comes from the Examiner's impermissible use of hindsight. Therefore, for this reason alone, the rejection of claims 1-4 should be withdrawn.

With respect to the rejection of claims 5 and 6 as being anticipated by Nakatani, this rejection is traversed for at least the following reasons. Nakatami discloses a thrust groove 15 adapted to receive the annular thrust collar 14. The thrust groove 15 has an upper portion 15a wider than a lower portion 15b such that the lower portion supports "the whole thrust or axial force loaded on the exhaust cam shaft 3". (see Nakatami at col. 5, lines 40-62) The thrust collar 14 does not provide a bearing surface configured to carry the camshaft. Accordingly, the "plain split thrust bearing 13" cannot be said to form a "bearing part that protrudes with respect to a width of the bearing surface to support longitudinal movement of the cam shaft at a lateral side of said thrust cam cap" as recited in the claims. Furthermore, the claim recites a body member having two sides defining a width there between and defining a concave opening along one edge extending between said sides for receiving a camshaft therein. Assuming arguendo, that one portion of the split thrust bearing 13 could be read as such a member, then the reference certainly fails to disclose a bearing part disposed along a periphery of said concave opening on at least one side of said body part and protruding from said side. Accordingly the rejection of claim 5 and claim 6 which depends upon claim 5 should be withdrawn.

In view of the foregoing remarks and amendments, it is believed that the application as a whole is in form for allowance. Should the Examiner have any continuing objections, the Examiner is respectfully asked to contact the undersigned at 415-442-1447 in order to expedite allowance of the case. Authorization is granted to charge any outstanding fees due at this time for the continued prosecution of this matter to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (matter no. 060945-0111).

Date December 10, 2004

Respectfully submitted,

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